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RESEARCH ARTICLE

MANAGEMENT AND PROGNOSIS OF ECTOPIC PREGNANCY AT THE UNIVERSITY HOSPITAL-Pr BOCAR SIDI SALL DE KATI

Bouroulaye Diarra[1], Moctar Diaby[1], Boubakary Guindo[1], Zoumana Cheick Berete[2] and Aminata Kouma[1]

1. Department of Obstetrics Gynecology CHU Pr BSS of Kati.
2. Department of Education and Research in Public Health (DERSP).

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Abstract

Introduction: Ectopic pregnancy is the implantation and development of the egg outside the uterine cavity. The epidemiological and therapeutic profiles of ectopic pregnancy differ from one country to another and from one health facility to another. This study, which is a first at the University Hospital PrBocarSidySall of Kati, aims to study ectopic pregnancy in the context of our daily practice.

Methods and Patients : Our study was retrospective, cross-sectional and descriptive. It took place from January 2014 to December 2019 in the obstetrics gynecology department of theUniversity Hospital PrBocarSidySall of Kati. The data were collected using a survey form and obtained from the patients' medical record, the hospitalization register, the delivery register and the registers of surgical reports. Data were analyzed with SPSS version 20.0 software.

Results: A total of 99 records were collected during the study period, representing a frequency of 0.53% of emergency visits and 1.88% of deliveries. A history of genital infection was found in 78% of cases. In our series, women with low parity were more numerous with 77.8% of cases. We found more right-sided and ruptured Ectopic pregnancies. The treatment was surgical in 92.2% of cases and the procedure performed was essentially a total salpingectomy.

Conclusion : The improvement of the technical platform of our health care facilities and preventive measures against the risk factors of the Ectopic pregnancy could reduce the burden of this pathology.

Introduction:-

Ectopic Pregnancy (EP) is the implantation and development of the egg outside the uterine cavity (1) . It occupies a privileged place in the literature and medical practice (2) **.** The occurrence of an Ectopic Pregnancy (EP) seriously compromises the obstetrical future of the woman, in fact 1/3 of ectopic implantations occur in nulliparous women of which 50% will remain sterile (3) **.**

Several risk factors have been identified as possibly causing EP; most of these factors lead to impaired tubal mobility and/or permeability: the fertilized egg cannot therefore reach the uterine cavity, hence its ectopic implantation (3) .

Corresponding Author:- Bouroulaye Diarra
Address**:-** Department of Obstetrics Gynecology of the University Hospital Pr BSS of Kati.

The epidemiological, clinical and therapeutic profiles of ectopic pregnancy differ from one country to another, from one city to another and even from one hospital to another also for many reasons. Its frequency has doubled over the past fifteen years due to the resurgence of risk factors. For several years, there has been an increase in the number of ectopic pregnancies in Western countries (1) . In Quebec, one pregnancy per 100 reported pregnancies would be ectopic (4) . In Africa the problem is crucial and is linked to late diagnosis (at the rupture stage). This makes it an extremely urgent condition with a disappointing maternal prognosis (5) . In Senegal, the annual incidence of EP is estimated at 0.6% of pregnancies (6) . EP ranks second among gynecological and obstetrical emergencies after caesarean section in Mali (7) , and it remains the leading cause of maternal death during the first trimester of pregnancy in developing and industrialized countries. EP accounts for nearly 10% of maternal mortality (8); its mortality and morbidity have decreased **.** This progress is explained by the improvement of biological assays, the advent of laparoscopy in current practice and the realization of now endovaginal ultrasounds allowing an early diagnosis (9) .

At the same time, the treatment, formerly exclusively surgical, has been enriched by medical treatment and therapeutic abstention. Thus the gynecologist, who is less and less confronted with a vital problem, is concerned about the current challenge represented by care for better preservation of subsequent fertility (9) **.**

This study, which is a first at the University Hospital (UH)PrBocarSidySallof Kati, aims to study ectopic pregnancy as part of our daily practice in order to provide suggestions for improvement in its management.

Methods And Patients:-

We report a descriptive cross-sectional study carried out in the gynecology-obstetrics department of the UHPrBocarSidySallof Kati, a 3rd reference structure which receives the various evacuations from our health areas (University Hospitals, Referral Health Centers, Community Health Centers). It took place over a period of 6 years from January 2014 to December 2019. The study concerned women admitted and treated for EP in the service and having a complete and usable medical file. Were not included in this work, patients whose care was not carried out in the service.

Data were collected using a survey form from patient records, the hospitalization register , childbirth and report registers . operating. The items explored were mainly socio-demographic and clinical data, diagnostic confirmation elements, therapeutic management and evolution.

Data were entered and processed using SPSS 20.0 and Excel (Microsoft office) version 2010 software.

The guarantee of confidentiality and anonymity of patient data was ensured by restrictive access.

Results:-

Frequency :

A total of 99 files were collected during the study period. Out of 18,398 emergency consultations, we received 99 cases of EP, a frequency of 0.53%. Out of 5,250 deliveries, we received 99 cases of EP, a frequency of 1.88%.

Socio-demographic characteristics of the patients:

The age group from 20 to 29 was predominant with 52.5% of cases (Table I). The average age was 26.81 ± 6.2 years with extremes of 18 and 42 years. Housewives were the most represented with 62.6% of cases. The majority of our patients were unschooled with 48.5% of cases (Table I).

Table I:- Socio-demographic characteristics of patients.

Variables	(n)	Percentage (%)
Age range of patients in years		
<=19	14	14.1
20-29	**52**	**52.5**
30-39	32	32.3
>=40	1	1.1
Occupation		
Official	8	8.1

Housewife	**62**	**62.6**
Private*	4	4.1
student or student	13	13.1
Shopkeeper/Saleswoman	12	12.1
Educational level		
Primary	26	26.3
Secondary	15	15.2
Superior	10	10.1
No schooling	**48**	**48.5**

*:mobile phone assistant for orange money; hotel manager; real estate agent.

Risk factors :

History of genital infections

A history of genital infection was found in 78% of cases (figure 1).

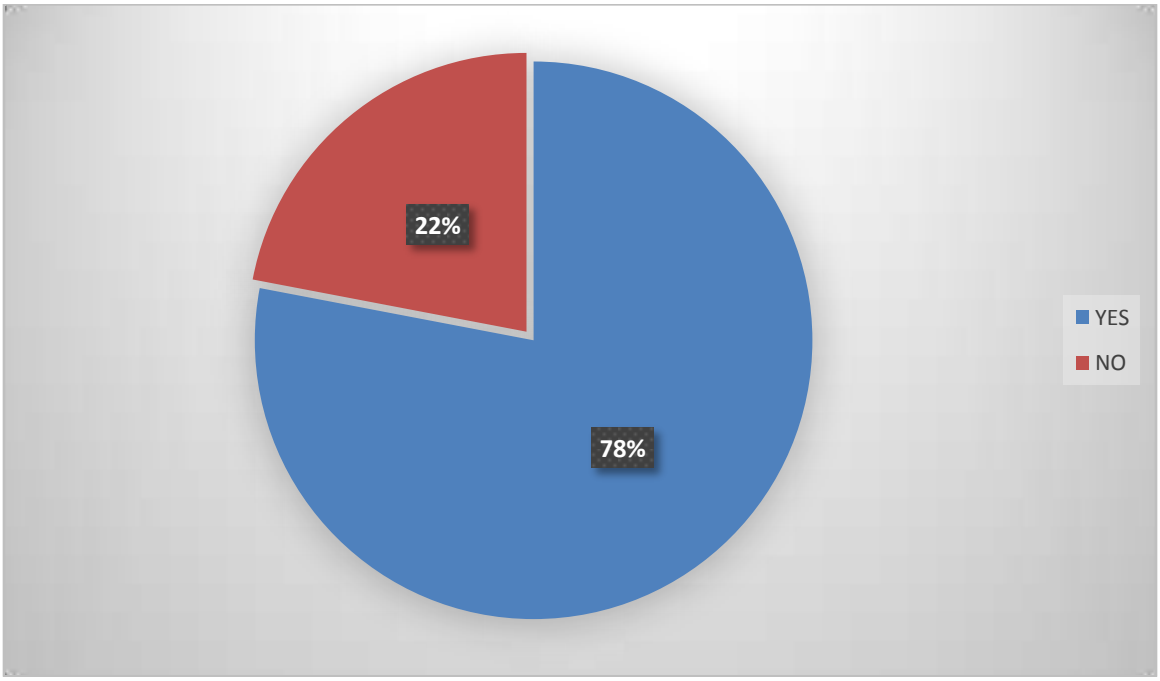

Figure 1:- Breakdown by History of genital infections.

Contraception

The pill and the implant were the most used with a codominance of 10.1%. cases (Table II).

Table II:- Type of contraception used.

Contraception	(n)	Percentage(%)
Implant	**10**	**10.1**
Depo Provra	2	2.0
Pill	**10**	**10.1**
Unspecified	7	7.1
None	70	70.7
Total	99	100.0

Obstetric history

Gestity

In our series, women with low gestity were more numerous with 65% of cases (figure 2).

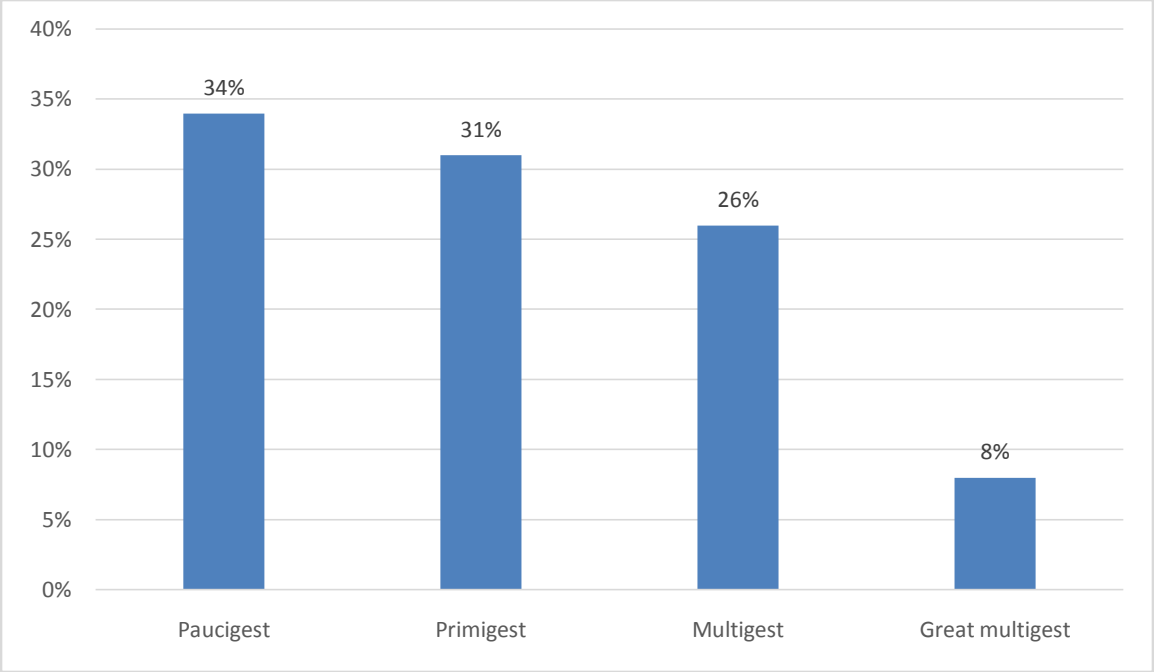

Figure 2:- Distribution of patients according to gestity.

Low Gestity = Primigest + Paucigest.

Parity

In our series, women with low parity were more numerous with 77.8% of cases (Table III).

Table III:- Distribution of patients according to parity.

Parity	(n)	Percentage(%)
Nulliparous	21	21.2
Pauciparous	**31**	**31.3**
Primiparous	25	25.3
Multipara	18	18.2
Great Multipara	4	4.0
Total	99	100.0

Functional signs were reported in all our patients. Pelvic pain was present in 92 patients or 92.9% of cases. Defense in the iliac fossa was found in 47.5% of cases (Table IV).

Table IV:- Patient clinical data.

Variables	**(n)**	**Percentage (%)**
Functional signs		
Amenorrhea	69	69.7
Pelvic pain	92	92.9
Metrorrhagia	44	44.4
physical signs		
Abdominal palpation		
Iliac fossa defense	47	47.5
Iliac fossa defense + umbilicus cry	37	37.4
Defense in Iliac fossa + Fluctuating abdomen + Cry of the umbilicus	13	13.1
None	2	2.0

The urine pregnancy test was used in 73.7% of cases. Pelvic ultrasound showed a laterouterine mass associated with Douglas fir effusion in 32.3% of cases (table V).

Table V:- Distribution of patients according to the mode of diagnosis.

Diagnosis method	(n)	Percentage (%)
Pregnancy test		
Positive	72	72.7
Negative	1	1.0
Douglas Puncture		
Positive	5	5.1
Negative	1	1.0
Transparietal puncture		
Positive	3	3.0
Negative	0	
Pelvic ultrasound results		
Egg sac	7	7.1
Latero-uterine mass	17	17.2
Presence of effusion in the Douglas fir	14	14.1
Ovular sac + Effusion in the Douglas fir	17	17.2
Latero-uterine mass + Effusion in the Douglas fir	32	32.3
Bag + Latero-uterine mass + Effusion	5	5.1
Not done	7	7.1
Total	99	100.0

The treatment was surgical in 92.2% of cases. In 9 out of 10 cases the surgical procedure performed was a total salpingectomy. We found more EP located on the right and ruptured. One patient had her contralateral tube absent. One case of maternal death was recorded during our study (Table VI).

Table VI:- Management and evolution of EP.

Variables	(n)	Percentage (%)
type of treatment		
Surgical	92	92.9
Medical	7	7.1
Surgical procedure performed		
Total salpingectomy	91	91.9
Tubo-abdominal abortion	1	1.0
None	7	7.1
Type of USG		
Topography		
Right	55	55.6
Left	44	44.4
State of the USG		
Broken	79	79.8
Not Broken	20	20.2
Contralateral tube		
Healthy	97	98.0
Hydrosalpinx	1	1.0
Absent	1	1.0
Exit States		
Alive	98	99.0
Deceased	1	1.0

Discussion:-

We conducted a descriptive and cross-sectional retrospective study on the management and prognosis of ectopic pregnancy in the Gynecology-Obstetrics department of the UH PrBocar Sidi SALL of Kati in Mali. It took place over a period of 6 years from 2014 to 2019.

We collected 99 cases of ectopic pregnancies during the study period.

The retrospective nature conferred a certain number of limits on our study:

1. Certain information was not always mentioned in the medical records of patients, including certain clinical socio-demographic data (number of sexual partners, post-operative follow-up and fertility after treatment),
2. The results of the anatomopathological specimens are not available inthe majority.
3. Some additional examinations (pelvic ultrasound, quantitative β-HCG) are not often performed urgently.
4. The non-performance of the infectious assessment did not allow us to achieve certain objectives, in particular the identification of other risk factors.

Despite these difficulties, we were able to conduct our study using the available data and the results obtained are comparable to the data in the literature.

Frequency of EP :

We obtained our frequency of EP after a calculation in relation to the number of emergency consultations and the number of deliveries in the service during the period of our study, as several authors have done before us, thus obtaining a frequency of 0.53 %out of a total of 18,398 emergency consultations and a frequency of 1.88% out of 5,250 deliveries. Our frequency is not statistically comparable to those of Dembélé S H. (10)who found a frequency of 1.38% and Guendeba D. (11)which found a frequency of 2% (83/4320) with $p<0.05$. However, this variability in frequency could be explained by the long duration and the size of our sample compared to other authors.

Socio-demographic characteristics:

In our series the average age is 26.81±6.2 with age extremes ranging from 18 to 42 years. The most affected age group is 20 to 29 years old, or 52.5% . The predominance in this age group could be explained by the fact that this group is the most sexually active population and exposed to the risk factors incriminated in the genesis of EP.

The average age of our patients is similar to that of Dohbit et al. (12) i.e. 26.6 and different from those of Leporaka F. (13)and Annab W. (14)are 32.26 and 30 . The literature reports that advanced maternal age is one of the risk factors for EP (15) . Tubal aging and long exposure to risk factors are the explanation Anorlu R et al. (16)thus reports that the early age of sexual life and the multiplicity of partners double the risk of EP.

Our series showed that married women and housewives were the most affected, i.e.89% and 62.6% of cases. Our results are comparable to the rates of Iqraoun S. (17) , Bamba K. (18)who had found higher frequencies among married women either [96.90% and 83.3%] and low income [85% and 79.6%]. On the other hand, the study Jacques AK. (19)showed that single people were the most represented at 79%. The burning desire to conceive and exposure to risk factors among married women and households would explain these high rates.

Unschooled women represented the majority with 48.5% of cases. Their poor information on the prevention of STIs, the rules of hygiene and the means of contraception could explain this result.

Risk factors :

Genital infections

In our series, 78% of patients had a history of genital infection. Our results were comparable to those of Togola K. (20) (74.3%) and Diarra S. (21) (68.2%) in Mali, but different from that of Jacques AK. (19) in Ivory Coast. This difference could be explained by the frequency of STIs. However, we must specify that in the majority of our patients the diagnosis of genital infections was clinically based.

Contraception

The progestogen micropill is associated with an increased relative risk of EP around 10% (3) . The explanation probably lies in the attack of the tubal fractions associated with the absence of inhibition of ovulation, because the

micro-progestins act by the coagulation of the cervical mucus, cause the atrophy of the endometrium, and reduce tubal peristalsis but respect ovulation (3) . In our series 29.3% of cases used a method of contraception comparable to that of Jacques AK. (19) and Bamba K. (18) but differs from that of Ali RM. (22) in Morocco.

Gestity

In our series USG is associated with low gestity, paucigests were the most affected, 34% of cases; directly followed by multigests with 27% of cases. Our results are similar to those of Leporaka F. (13) (p=0.12) in Madagascar and Ali RM. (22) (p=0.46) in Niger and statistically different from that of Jacques AK. (19) (p<0.05) in Ivory Coast.

The late age of the first pregnancy can be a risk factor because it allows the installation of a tubal pathology.

Parity

All parities are concerned. In our series, the pauciparous were the most affected with 31.3% of the cases, followed by the primiparous and the nulliparous with 25.3% and 21.2% of the cases, we also have a significant percentage among the multiparous, i.e. 18 .2% of cases.

Our results agree with those of the literature. Jacques AK. (19) (p=0.16) in Ivory Coast, Leporaka F. (13) (p=0.11) in Madagascar and Bamba K. (18) (p=0.07) in Mali.

The results of recent African studies have found EP to be associated with low parity, but this does not mean that multiparas are spared when risk factors exist.

Diagnostic :

Patients admitted in a state of shock were taken directly to the operating room after a clinical examination, without ultrasound examination. Pelvic pain was the most common functional sign in 92.6% of cases.

In our series, abdominal and pelvic ultrasound was performed in 92.9% of cases, statistically comparable to that of Bamba K. (18) (92.5%) in Mali and Ferkous G. (23) (94%) in Algeria, on the other hand, it differs from that of Taame A. (24) (65.62%) in Morocco.

Management:-

The management of EP is multidisciplinary and requires means of resuscitation which have clearly improved its prognosis in recent years.

In our series, 7.1% of our patients received medical treatment based on methotrexate 1mg/kg IM with an 85.71% success rate, this rate can be superimposed on that of Leporaka F. (13) (p=0.14) in Madagascar, Rafia M. (25) (p=0.4) in Casablanca and Ali RM. (22) (p=0.06) in Niamey with failure rates of 14%, 20%, 100% respectively. While in the series of Bamba K. (18) in Mali, Jacques AK. (19) in Ivory Coast and Dohbit et al. (12) in Cameroon no patient had received medical treatment. This difference would be due to the late diagnosis of EP. This minimally or non-invasive treatment widely used in industrialized countries, indeed Van Den Eaden et al. (26) report a 35% utilization rate in the United States. Our low rates of use of medical treatment are linked to late diagnosis.

Surgical treatment was the most used therapeutic method with 92.9% of cases with the inevitable realization of a total salpingectomy (thereby altering the obstetrical prognosis) in 97.83% of cases for radical treatment against 2.17% d tubo-abdominal abortion for conservative treatment. Our series is similar to that of Jacques A K. (19) (p=0.07) with 97% versus 3% conservative treatment. On the other hand, it differs from that of Rafia M. (25) (P<0.05) in Morocco who had 95.84% of surgical treatment including 66.66% of radical treatment and 33.33% of conservative treatment. These attitudes could be explained by the state of the appendages during the operation, the anterior parity.

In the series of several other African authors the treatment was radical in 100% Sanogo BD (27) , Bamba K. (18) in Mali and Ali RM (22) in Niger. The delay in diagnosis and the condition of the adnexa during surgery could explain these therapeutic attitudes.

As a gesture performed in our study, there was 97.83% of salpingectomy similar to those of Jacques AK. (19) (p=0.16), Ali RM. (22) (p=0.10) and Bamba K. (18) (p=0.57). The condition of the appendages during surgery could explain these gestures.

Still intraoperatively, one patient had the contralateral tube absent, i.e. 1.08%, Jacques AK. (19) found that 6.99% of cases had their contralateral tube absent. This would be due to their history of EP whose treatment was a salpingectomy.

In our series, no patient benefited from endoscopic treatment, this result is similar to those of Balde et al. (28) in Guinea and Gabkika(29) in Chad. The insufficiency of the technical platform of hospitals in our countries could explain this.

Prognosis :

According to Coste J. et al. (30) The mortality rate of female victims of EP in underdeveloped countries is 1-3% which is 10 times higher than the mortality rate in developed countries, therefore EP must be considered as an indicator factor of which reflects the image and capacity of the country's health system from a diagnostic and therapeutic point of view.

Subsequent fertility being the main concern of patients when the vital prognosis is not at stake. Considering that the obstetrical future of the woman operated on by GEU is always bleak.

However, several studies have shown that the mode of treatment for EP is a prognostic factor for subsequent fertility:

1. Fertility seems comparable after medical treatment or conservative surgical treatment, but the risk of recurrence seems lower after treatment with methotrexate.
2. Radical treatment does not preserve recurrence of EP
3. Laparo-surgical treatment, whether radical or conservative, does not expose you to a greater risk than that of laparotomy.

In our series, a patient had a history of EP and who had been treated radically, which could seriously compromise her obstetrical future in a country where the means of ART are very limited.

Unfortunately, the subsequent fertility of our patients could not be studied because most of them are lost to sight upon discharge.

Conclusion:-

The management of ectopic pregnancy is linked to the stage of complications, in particular tubal rupture leading to salpingectomy with serious consequences for patients. Improving the technical platform of our health structures as well as raising awareness of the risk factors of the disease, in particular Sexually Transmitted Infections, could limit the consequences of this pathology.

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None

Conflict of interest

No potential conflict is reported.

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